Egypt and Chalde

In a quarto volume of nearly 800 pages, the Messrs. Appleton have published an English version of the great work by Prof. G. MASPERO, entitled, The Dawn of Civilization; Egypt and Chalden. The book has been translated by Mr. M. L. McClure, a member of the committee of the Egypt Exploration Fund, and it is edited by Mr. A. H. Savos, the well-known Professor of Assyriology at Oxford. The reader scarcely needs to be reminded that Prof. Maspero's intimate equaintance with Egypt and its literature, and the opportunities of discovery afforded him by his position for several years as the director of the Bulak Museum, give him a unique claim to speak with authority on the history of the Nile Valley. In the case of Babylonia and Assyria, on the other hand, he no longer speaks at first hand, but he has thoroughly studied the latest and best authorities on the subject, and has weighed their statements with the judgment which comes from an exhaustive sequaintance with a similar department of wiedge. Mr. Sayce, however, dissents from his views regarding two points, which are o siderable importance. These are the geo graphical situation of the land of Magan, which t Assyriologists concur in placing in the immediate vicinity of Egypt, and the historica character of the annals of Sargon of Accad which Prof. Maspero seems inclined to regard as legendary. In this notice we shall limit our selves to indicating the conclusions arrived a the author regarding the antiquity of Egyp tian civilization, and shall touch but very briefly the corresponding part of his work relating Chalden.

After an interesting account of the physics saphy of Egypt, and of its characteristic fauna and flora, Prof. Maspero enters on the archæ logical inquiry for which his life has so emi-mently fitted him. He begins by pointing out that the word Nile is of uncertain origin. We have it from the Greeks, and they took it from people foreign to Egypt, either from the Phoenicians or the Khiti, from people of Libya or of Asia Minor. When the Egyptians themselves did not care to treat their river as the God Hapl, they called it the Sea, or the Great River. They had twenty or more terms by which to designate the different phases which it esumed according to the season, but they would ot have understood what was meant had one talked to them of the Nile. The name Egypt also, is part of the Hellenic tradition; the author suggests that it may have been taken from he temple-name of Memphis, Haikuphtah, which barbarian coast tribes of the Medi terranean must long have had ringing in their ears as that of the most important and wealthiest town to be found the shores of their sea. The Egyptians themselves Romitu, Rotu, and their country Oinit, the Black Land. Whence came How far off in time are we to carry back the date of their arrival? It is unquestionably true that the oldest monuments thus far know scarcely transport us further than six thousand years. Yet these are of an art so fine and se well determined in its main outlines, and they reveal so ingeniously combined a system of civil dministration and religion, that we cannot well help inferring a long past of accumulated centuries behind it. Of course, it must be always difficult to estimate exactly the length of time needed by a race as gifted as were the ancient Egyptians to rise from barbarism into a high degree of culture. Nevertheless, Prof. Maspero is inclined to grant them forty or fifty centuries wherein to bring so complicated an achievement to a successful issue, and therefore he would place their first appearance in the Nile valley at eight or ten thousand years before our era. In a foot note we are reminded that this is the date admitted by Chabas, of all savants the least disposed to attribute exaggerated an

The horizon of the earliest dwellers in the Nile valley was a very narrow one. Their gaze might wander westward over the ravine-fur-rowed plains of the Libyan desert without reaching the fabled land of Manu, where the sun set every evening; but looking eastward from the valley they could see the peak of Bakhu, which was supposed to mark the limit of regions nan in that direction. By Brugsel The peak of Bakhu was identified with the Emerald Mountain of classic geography, known to-day as Gebel Zabarah. But our author does not think hat the name of Bakhu was restricted to an insignificant chain of hills. On the contrary, the texts prove that it was applied to several moun tains situated north of Gebel Zabarah, especially to Gebel ed-Dukham. One of the peaks of the latter region attains a height of 6,180 feet, and s visible from afar. Beyond the regions accesto man lay the beginnings the Land of the Gods, and the breezes passing over it were laden with its perfumes. and sometimes wafted them to mortals lost in the desert. Northward, the world came to an end toward the lagoons of the Delta, whose inaccessible islands were believed to be the so ourning place of souls after death. As regards the south, precise knowledge of it scarcely went beyond the defiles of Gebel Silsileh, where the last remains of the granite threshold had per-haps not altogether disappeared. The district beyond Gebel Silsileh, the province of Konusip, was still a foreign and almost mythic country, directly connected with heaven by means of the cataract. Long after the Egyptians had broken through this restricted circle, the name of those places which had, as it were, marked out their original frontiers, continued to be asso ciated in their minds with the idea of the four cardinal points. Bakhu and Manu were still the most frequent expressions for the extreme east and west. Nekhabit and Buto, those popu lous towns in the neighborhoods respectively of Gebel Silsilch and the ponds of the Delta were net over against each other to designate south and north. It was within these narrow boun daries that Egyptian civilization struck root and ripened as in a closed vessel.

tiquity to races of men.

What were the people by whom that civiliztion was developed, the country whence they came. the races to which they belonged, is to-day un-known. The majority would place their cradie land in Asia; the greater number of contempowary Egyptologists have rallied to this opinion in the train of E. de Rouge; but the most extreme position has been taken up by Hommel, the Assyriologist, who is inclined to derive Egyptian civilisation entirely from the Babvlonian. He endeavors to prove that the Helio-politan myths, and hence the whole Egyptian eligion, are derived from the cults of Eridu and would make the name of the Egyptian city Onu, or Anu, identical with that of Nun, which is borne by the Chaldean. Those, however, who would derive the earliest settlers of the Nile land from Asia, cannot agree in determining the route which was followed in the emigration to Africa. Some of these think that the people took the shortest road across the Isthmus of Sucz. Others give them longer peregrinations and a more complicated itinerary. The latter would have them cross the Straits of Bab-el-Mandeb, and then the abyssinian Mountains, and, spreading northward and keeping along the Nile, finally settle in the Egypt of to-day. Prof. Maspero, for his part, finds himself constrained by a minute ex-amination of the evidence to regard the hypothesis of an Asiatic origin as difficult to maintain. The fact is noted that the bulk of the Egyptian population presents the characteristics of those white races which have been found established on the Mediterranean slope of the Libyan conti-ment; this population, then, is of African origin, and came to Egypt from the West or Southwest. It is admitted to be possible that, in the Nile valley, it may have met with a black race, which it drove back or destroyed, and that there, too, it may have afterward received an accretion of Asiatic elements, introduced by way of the Isthmus and the marshes of the Delta. But whatever theory may be adopted with respect to the origin of the ancestors of the Egyptians, it seems undeniable that they had scarcely settled on the banks of the Nile before the country conquered them and assimilated them to itself, as it has never ceased to do in the case of strangers who

have occupied it. At the time when the history of Egypt begins the inhabitants had long formed one people and had but one language.

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This language seems to be connected with the

Semitic tongues by many of its roots. It form

ts personal pronouns, whether isolated or suf

fixed, in a similar way. One of the tenses of the

conjugation, and that the simplest and mos

archaic, is formed with identical affixes. With out insisting upon resemblances which are open to doubt, Prof. Maspero is disposed to affirm that most of the grammatical processes used in Semitio tongues are to be found in a rudimentary endition in Egyptian. He would say that the language of the people of Egypt and the languages of the Semitio races, having once selonged to the same group, had separate very early, at a time when the vocabulary and the grammatical system of the group has not as yet taken definite shape. Subjected to different influences, the two families would treat in diverse fashion the elements common to both. The Semitic dislects continued to develop for centuries, while the Egyptian speech, although earlier cultivated, stopped nort in its growth. A statement made by E. de Rougé is quoted with approval: "If there is language of Egypt and that of Asia, this conection is nevertheless sufficiently distant to leave a distinct physiognomy to the Egyptian sculptured and painted portraits, as well as thousands of mummied bodies out of subterranean tombs. The highest type of Egyptian was tall and slender, with something that both proud and imperious in the carriage of his head, and in his whole bearing. and full shoulders, well marked and vigorous pectoral muscles, muscular arms, a long, fin hand, slightly developed hips, and sinewy legs, The detail of the knee joint and the muscles of the calf are strongly marked beneath the skin. The long, thin, and low-arched feet are flattened out at the extremity, owing to the custom of going barefoot. The head is rather short, the face oval, the forehead somewhat receding. The eyes are wide and fully open, the cheek bones not too marked, the nose fairly prominent, and either straight or aquiline. The mouth is long. the lips full and lightly ridged along their out-The teeth are small, even, well set, and remarkably sound; the ears are set high on the head. At birth the skin is white, but darkens in proportion to its exposure to the sun. Men are generally painted red in the pictures, though, as a matter of fact, there must already have been all the shades which we see among the present population, from a delicate rose-colored complexion to that of a smoke-colored bronze. Women, who were less exposed to the sun, are generally painted yellow, the tint paler in proportion as they rise in the social scale. The hair was inclined to be wavy, and even to curl into little ringlets, but without ever turning into the wool of the negro. The beard was scanty, thick only upon the chin. Such was the highest type: the commoner was swart, dumpy, and heavy, the chest and shoulders seeming be enlarged at the expense of the pelvis and the hips to such an extent as to make the want of proportion between the upper and lower parts of the body startling and ungraceful. The skull is long, somewhat retreating, and slightly flattened at the top. The features are coarse, and as though carved in flesh by great strokes of the roughing-out chisel. Small, fraenated eyes, a short nose, flanked by widely distended nos trils, round cheeks, a square chin, thick but not curling lips; this unattractive and ludicrous physiognomy, sometimes animated by an exon of cunning which recalls the shrews face of an old French peasant, is often lighted up by gleams of gentleness and of melanchols good nature. The external characteristics of these two principal types, whose endless modifications are to be found on ancient monuments, may still be seen among the living. A citizen of Cairo, gazing with wonder at the statues of Khafra or of Seti L., in the Ghizeh Museum, is himself, at a distance of fifty centuries, the re-Pharachs.

Nothing, or all but nothing, has come down to us from the primitive races of Egypt. We cannot even attribute to them with certainty the majority of the flint weapons and imple-ments which have been discovered in various places. The Egyptians continued to use stone though by no means exclusively, after other nations had begun to use metal. They made stone arrow heads, hammers, knives, and scrapers not only in the time of the Pharaohs, but under the Romans and during the whole period of the middle ages, and the manu facture of them has not yet entirely died out. Mariette has noted the fact that a Koptic reis in charge of certain excavations shaved his head with a flint knife, according to the custom his youth. Prof. Maspero knew the man in 1887, and found him still faithful to his flint instrument. The flint objects, therefore, and the workshops where they were made may be less ancient than the greater parts of the inscribed monuments. But if we have no examples of any work certainly belonging to the first ages, we meet in historic times with certain customs which are out of harmony with the general civilization of the period. A comparison of these customs with analogous practices of barbarous nations throws light upon the former, completes their mean. ing, and shows us at the same time the successive stages through which the Egyptian people had to pass before reaching their highest civilization. We know, for example, that, even as late as the Cæsars, girls belonging to noble families at Thebes were consecrated to the service of Amon, and were thus licensed to a life of immorality, which, however, did not prevent them from making rich marriages when age obliged them to retire from office. We are reminded that the women of Egyptian Thebes were not the only people in the world to whom such li-cense was granted or upon whom it was imposed by law. "Wherever in a civilized country we see a similar practice we may recognize in it an ancient custom, which, in the course of centuries, has degenerated into a religious observance. The institu-tion of the women of Amon is a legacy from a time when the practice of polyandry of tained and when marriage did not yet exist." Age and maternity relieved them from this obligation and preserved them from those incestuous connections of which we find examples in other races, as, for instance, among the Medes in the class of the Magi. A union of father and laughter, however, was perhaps not wholly forbidden in ancient Egypt-two or three cases are cited in a foot note-and that of brother and sister seems to have been regarded as perfectly right and natural; the words brother and sister essed in Egyptian love songs the same sig-

nificance as lover and mistress with us. In a community of this kind paternity was neces-early doubtful, and hence the ties between fathers and children were slight; there was no family in the sense in which we understand the word, except as it centred around the mother. Maternal descent was therefore the only one openly acknowledged, and the affiliation of the child was indicated by the name of the mother alone. When the woman ceased to belong to all men indiscriminately, and confined herself to one husband, the man reserved to himself the privilege of taking as many wives as he wished or as he was able to keep. All wives did not enjoy identical rights; those born of the same parents as the man, or those of equal rank with himself, preserved their independence. If the law pronounced him the master to whom they owed obedience and fidelity, they, on their part, were mistresses of the house as well as wives, and the two words of their title, mibit piru. express their condition. Each of them occupied, in fact, her own house, piru, which she had from her parents or her husband, and of which she was absolute mistress, nibit. She lived in it, and performed in it without constraint all a woman's duties, feeding the fire grinding the corn, occupying herself in cooking and weaving making clothing and perfumes ursing and keeping her children. When her husband visited her, he was a guest whom she received on an equal footing. It appears that as the outset these various wives were placed under the authority of an older woman, whom pero much valuable information. He has found never, as far as can be ascertained by the press Monotremes and Marsupials;

they looked on as their mother and who defended their rights and interests against the master, but this custom gradually disappeared. and in historic times we read of it as existing only in the families of the gods. Besides the wives, there were concubines, slaves purchase or born in the house, prisoners of war, Egyptians of inferior class, who were the chattels of the man, and of whom he could disnose as he wished All the children, however, of one father wer egitimate, whether their mother were merely concubine or a wife; but they did not all enjoy the same advantages. Those among them who were children of a brother or sister, united in legitimate marriage, took precedence of those whose mother was a wife of inferior rank or a slave In the family thus constituted the woman, to all appearances, played the principal part. dren recognized the parental relationship in the mother alone. The husband appears to have entered the house of his wives rather than the wives to have entered his, and the appearance of his inferiority was so marked that the Greeks were deceived by it. They affirmed that the man was supreme in Egypt; that the man at the time of marriage promised obedience to her, and entered into a contract not to raise any objections to her command.

In view of these survivals of primitive social in stitutions in the Egypt of the Pharaohs and the Ptolemies, Prof. Maspero would pronounce the first Egyptians to have been semi-savages, like those still living in Africa and America, having an analogous organization and similar weap and tools. A few lived in the desert, in the easis of Libya to the west, or in the deep vallevs of the Red Land (Doshirit) between the Nile and the sea, the poverty of the country fostering their native savagery. Even in late times, the Egyptians had not forgotten the ties of common origin which linked them to these still barbarous tribes. Others, settled on the Black Land, gradually became civilized. Their houses were like those of the fellahs of to-day, low huts of wattle daubed with puddled clay or of bricks dried in the sun. They contained one room, either oblong or square, the door being the only aperture. Only the dwellings of the richer class were large enough to make it needful to support the roof by means of one or more trunks of trees, which did duty for columns. Earthen pots turned by hand, mats of reeds or plaited straw, two flat stones for grinding corn, pieces of wooden furniture, stools, and head rests for use at night comprised all the contents The men went about nearly naked, except the nobles, who were a panther's skin, sometimes thrown over the shoulders, sometimes drawn around the waist, and covering the lower part of the body, the animal's tall touching the heels behind, as we see later in several representations of the negroes of the Upper Nile. The author of this book is inclined to think that, at first the Egyptians smeared their limbs with greas or oil, as, indeed, the fellahs of Upper Egypt and the Nubians still do, to protect their bodie from mosquitoes and prevent their skin from being cracked by the sun. He thinks also that they tattooed their faces and bodies, at least in part, but this practice was retained only by the lower classes; the reasons for this belief are cited in a foot-note. On the other hand, the custom of painting the face was never given up To complete an Egyptian toilet it was necessary to accentuate the arch of the eyebrows with line of kohl (antimony powder). A similar black line surrounded and prolonged the oval of the eye to the middle of the temple; a layer of green colored the under lids, and othre and carmine enlivened the tints of the cheeks and lips. The hair, plaited, curled, olied, and plas tered with grease, formed an erection which was as complicated in the case of the man as in that of the woman. Should the hair be too short, a black or blue wig, dressed with much skill, was substituted for it: ostrich feathers waved on the heads of warriors, and a large lock, flattened behind the right ear, distinguished the military or religious chiefs from their subordinates. When the art of weaving ecame common, a belt and loin cloth o white linen replaced the leathern garment Fastened round the waist, but so low as to cave the navel uncovered, the loin cloth frequently reached to the knee; the hinder parwas often drawn between the legs and atached in front to the belt, thus forming a kind of drawers. Tails of animals and wild beasts kins were henceforth only the insignia of authority, with which priests and princes adorned themselves on great days and at religious ceremonies. The skin was sometimes carelessly thrown over the left shoulder, and swayed with

the movement of the body; sometimes it was

carefully adjusted over one shoulder and under

the other, so as to bring the curve of the chest

into prominence. The head of the animal, skil-

fully prepared and enlivened by large eyes of

enamel, rested on the shoulder, or fell just be-

low the waist of the wearer; the paws, with the

claws attached, hung down over the thighs. The

five-pointed stars. On going out of doors a large wrap was thrown over all; this covering was either smooth or hairy, similar to that in which the Nubians and Abyssinians of the present day envelop themselves. It could be draped in various ways, but the Egyptians never sought to transform it into luxurious garment of state, as was the case in later times with the Roman toga The women were at first contented with a loin cloth like that of the men; it was enlarged and lengthened till it reached the ankle below and the bosom above, and became a tightly fitting garment, with two bands over the shoulders, like races, to keep it in place. The feet wer not always covered; on certain occasions, however, sandals of coarse leather, plaited straw split reed, or even painted wood, adorned the shapely Egyptian feet which, perhaps, we should prefer to see a little shorter. Both men and women loved ornaments, and covered their neck, dress, arms, wrists, and ankles with many rows of necklaces and bracelets. Weapons, at least among the nobility, were an indispensable part of costume. Most of them were for hand to hand fighting; sticks, clubs, lances furnished with a sharpened bone or stone point, axes of flint, sabres and clubs of bone or of wood in various shapes, pointed or rounded at the end, with blunt or sharp blades, inoffensive enough to look at, but, when wielded by a vigorous hand, sufficient to break an arm, crush in the ribs, or smash askuli. The plain or triple curved how was the favorite weapon for attack at a distance. But, in addition to this, they had the sling, the javelin, and a missile almost forgotten nowa-days, the boomerang. Prof. Maspero can find to proof, however, that the Egyptians handled the boomerang with the skill of the Australians. or that they knew how to throw it so as to bring it back to its point of departure. The Egyptian omerang is much smaller than that of the Australian. It is still used by certain tribes of the Nile valley, and is portrayed in the most ancient tombs. Every museum possesses examples. Such seems to have been approximately the nost ancient equipment of the Egyptians, as far a can be now ascertained; at a very early date, however, copper and fron were known in the Nile valley. The class of blacksmiths is assoclated with the worship of Horus, and appears in the accounts of the mythical wars of that god. Long before historic times the majority of the wespons in wood had been replaced by those of metal, daggers, sabres, and hatchets, which preserved, nevertheless, the shape of the old wooden instruments. Such wooden weapons as were retained were used for hunting, or were only brought out on solemn occasions when tradition had to be respected. The war baton became the commander's wand of authority, and at last degenerated into the walking stick of the rich or noble. The club at length came to represent merely the rank of a chieftain. Finally the crook and the wooden-handled mace, with its head of white stone, the favorite weapone of princes, continued to the last to be the most revered insignia of royalty.

We have dwelt at length upon what the auther has to say regarding the earliest Egyptians, because, until now, but few efforts have been made to throw light upon the aubject. Erman, for instance, and Ed Meyer have devoted to it only a few pages. It is the examination of the like the dodo in recent times, the dinornis and hieroglyphic signs which has yielded to Mas-other gigantic birds had disappeared. But he

that they preserve for us a representation of objects, and consequently a record of customs, flourishing at the time when they were originally drawn

In that part of this volume which deals with

the dawn of civilization in Chaldea, Prof. Mas-pero decides, although not without hesitation, to accept the opinion of the Chaldeans themselves, and to leave Sargon of Accad and his successor Naramsin at the dates assigned to them by Nabonidos (about 3,800-3,750 B. C.), although from this point they look down from a high eminence upon all the rest of Chaldean antiquity. For many subsequent centuries the author regards the Chaldean annals, so far as they have been reconstructed, as the mere dust of history rather than history itself. Here an isolated individual makes his appearance in the record of his name, to vanish when one attempts to lay hold of him; there we encounter the stem of a dynasty which breaks off abruptly, or compous preambles, devout formulas, dedica tions of objects or buildings; here and there the account of some battle for the vindication of some foreign country with which relations of friendship or of commerce were mainfained Such were the scanty materials out of which one is expected to weave a connected nar-rative. Egypt, indeed, has not much more o offer in regard to many of her Pharaohs, but in her case, we have at least the certain frame works of her dynasties, in which each fact and each new name falls eventually and after somancertainty into its proper place. The main outlines of the picture are drawn with sufficient exactitude to require no readjustment; the groups are for the most part in their fitting poitions; the blank spaces, or positions not occu pied, are gradually restricted and are being filled n from day to day. The expected moment, there ore, is in sight when, the arrangement of the whole being accomplished, it will be necessary only to fill in the details. In the case of Chaldea, on the other hand, the framework itself is wanting, and expedients must be resorted to in order to classify the elements enterng into its composition. The beginnings of Chaldes have merely a provisional history; the facts in it are such that the connection of the facts with one another is too often a matter of oubt. The arrangement which is put forward in this volume is presented only as probable pending the attainment of more precise materials through excavations. Such, at all events, is Maspero's view of the situation; but, as we have said, Prof. Sayce, in the preface to this book, takes a more encouraging view of the means already forthcoming for the interpretation of early Chaldean history.

Str Richard Owen. The Mesers. Appleton have published a book which has been looked for since the death of the subject two years ago, The Life of Richard Owen, by his grandson. There seems to have been an exceptionally large supply of materials for these volumes owing to the subject's habit of preserving every paper or letter that came to his hand. Of his own letters no less than 1,200 remain, while more than 15,000 letters received from others have been placed at the disposal of the biographer. Moreover, both Owen and his wife were in the habit of keeping diaries, and, although his own journal was somewhat disconnected, that of his wife is a full record from 1834 to 1873, not only of the important facts, but even of the trivial details of their joint lives. The biographer's main duty, therefore, has been that of compressing the ample information attainable regarding his subject's private life. Not being himself a he has wisely caused the scientific portions of this volume to be revised by Mr. C. Davies Sherborn, and he has secured from Prof. Huxley an essay on Owen's position in anatomical science, which is the most valuable feature of the book.

The subject of this biography was more than 88 years old when he died on Dec. 18, 1892, having been born at Lancaster on July 20, 1804. He as the son of a West India merchant, and received his early education at the grammar school lows was William Whewell, afterward the wellwn master of Trinity College, Cambridge. At the age of 20 he matriculated at the Unibecame a member of the Royal College of Surgeons, in London, after which he began life as a general practitioner. His appointment on the recommendation of Dr. Abernethy to the post of esistant curator of the Hunterian Museum led him to give his attention exclusively to the study of comparative anatomy. It was to comparative anatomy and paleontology that he devoted almost the whole of his scientific career, which may be said to have begun even before the publication of the "Memoir on the Pearly Nautilus" in 1832, and which did not end until 1889. For the actual scope and preise worth of his work we shall refer presently to Prof. Huxley's essay, but there is no doubt that, so far as public and official recognition is oncerned, no English man of science in this century has been more highly honored at home and sbroad. Mr. Owen received the cross of the Legion of Honor as early as 1855, and was subsequently made a Chevalier of the Prussian Order of Merit, and a Knight of the Bath. Several pages of this book are required to enumerate the scientific societies or academies, British or foreign, of

which he was a fellow or an associate, Before we look at Prof. Hurley's attempt to define Owen's place in science, we naturally turn with curiosity to the pages treating of the subject's attitude toward Darwin's theory. There are not many of these pages, and they are not as full of definite information as could be wished; still they are by no means the least interesting in these volumes.

It will be remembered that it was in the latter part of 1859 that Darwin published his "Origin of Species." The price which he set upon Owen's opinion of that work may be inferred from a note written to Lyell, which was in-cluded by Francis Darwin in his "Life" of his father, "How curious I shall be to know what line Owen will take. Dead against us, I fear; but he wrote me a most liberal note on the re-ception of my book, and said he was quite prepared to answer, fairly and without prejudice, my line of argument." After a meeting with Owen, Darwin wrote to him a letter respecting the "Origin," from which the following extract is taken: "You made a remark in our conversation, something to the effect that my book could not probably be proved, as it attempted to explain so much. I can only answer that this might be objected to any view embracing two or three classes of facts. Yet I sasure you that its truth has often and often weighed heavily on me; and I have thought that perhaps my book might be a case like Macleay's quinary system (an artificial attempt at a natural sys tem of classification which soon became a byword among naturalists). So strongly did I feel this that I resolved to give it all up as far as I could if I did not convince at least two or three competent judges. You smiled at me for sticking myself up as a martyr; but I assure you if you had heard the unmerciful, and I think unjust you had things said of my book and to me in a letter by an old and very distinguished friend, you would not wonder at me being sensitive, perhaps ridiculously sensitive. Forgive these remarks. I should be a dolt not to value your scientific opinion very highly. If my views are in the main correct, whatever value they may possess in pushing on science will now depend very little on me, but on the verdict pronounced by men eminent in science." The "old and very distinguished friend" here spoken of, Dr. Francis Darwin considered to be Adam Sedg-wick, and the identification seems confirmed by a letter from Sedgwick to Owen which is printed in this book, and to which we shall shortly refer. If not dead against the theory of Natural selection, the subject of this biography at first looked askance at it, preferring the idea of the great scheme of nature which he had himself advanced. He was of opinion that the operation of external influences and the resulting "contest of existence" lead to certain species bec extinct. Thus it came about, he supposed, that, other gigantic birds had disappeared. But he

eat biographer and his colaborer, Mr. C. D. Sherborn, expressed a definite opinion on Dar winism, and, in the "Historical Sketch" which serves as a preface to the sixth edition of "Origin of Species," Darwin undertakes to define Owen's ideas so far as he can comprehend them. The singular impartiality of Darwin and his incessant endeavors to arrive at the truth whether it turned against him or for him will be made plain by some of his own words touching the question as to what Owen's ideas were, "When," he says, "the first edition of this work was published, I was so completely deceived, as were many others, by such expressions as 'the continued operation of creative power,' that I included Prof. Owen with ther pateontologists as being firmly convinced of the immutability of species; but it appears that this was on my part a preposterou error. In the last edition of this work I in-ferred, and the inference still seems to be perfectly just, from a passage beginning with the words, 'no doubt the type, form,' &c., that Prof. Owen admitted that Natural Selection may have done something in the formation of new species; but this, it appears, is inaccorate and without evidence. I also gave some extracts from a correspondence between Prof. Owen and the editor of the London Review, from which it appeared manifest to the editor as to myself that Prof. Owen claimed to have promulgated the theory of Natural Selection before I had done so; and I expressed my surprise and satisfaction at this announcement; but, as far as it is possible to understand certain recently published passages, I have again, either partially or wholly, fallen into the error. It is consolatory to me that others find Prof. Owen's controversial writings as difficult to understand and to reconcile with each other as I do. As far as the mere enunciation of the principle of Natural Selection is concerned, it is quite immaterial whether or not Prof. Owen preceded me or both of us were long ago preceded by Dr. Wells and Mr. Matthews."

Mr. Smith Woodward, writing in Natural

Science, in February, 1803, averred that "Owen

could never be induced to follow the new school of anatomy and zoology that arose with the sch-making researches of Von Baer and Rathke in embryology." This marked disregard of embryology as the essential adjunct, even if not the key of comparative anatomy, was regarded by Mr. Woodward as all the more surprising, since so large a proportion of Owen's researches on vertebrate animals were devoted to the fossil remains of past ages. If any phase of biological research can benefit by embryology, that is assuredly paleontology. Owen's statements on the succession of genera and species, and their possible derivation one from another. were always vague, and capable of more than one interpretation; and, though there is not much doubt that he leaned toward the views of Geoffrey St. Hilaire and those who believed the evolution of life, his work, nevertheless, for the most part, is eminently Cuvierian, that is to say, a laborious description of the facts, with a detailed discussion that rarely extends beyond strict comparative anatomy and the phenomens of geographical or geological distribution. Only on two occasions, namely, in references to the horse and to crocodiles, does he appear to have attempted any broad philosophical deductions and even in those cases it is not quite clear how much he admits. He was perfectly aware that the facts of progression noted the anti-evolutionist, Agassiz, among fishes were equally conspicuous among the higher vertebrates; but he contented self with the bare statement that "the inductive demonstration of the nature and mode of operation" of the laws governing life would henceforth be "the great aim of the philosophical naturalists." Writing n Natural Science about the same time, Prof. St. George Mivart spoke of Owen's position in the following terms: "Owen spread abroad in England the perception that a deep significanunderlies the structure of animals; a significance for which no stress or strain and no influence o heredity, and certainly no mere practical utility can account. The temporary overclouding o this perception through the retrogade influence of Darwin's hypothesis of natural selection now slowly but surely beginning to pass away, for which no small thanks are due to the efforts of his zealous disciples, Weismann and Ro-· We will now quote a passage from the letter which Owen received from Adam Sedgwick on the subject of the origin of species 'There are many things I want to talk to you about-Darwin's book, &c. Though my published letter contains an outline of my objection to the theory, yet it is a mere sketch written without the shadow of a thought that the editor would send it to the press; but, on seeing it in print, I liked it far better than I had expected, and there is not now a word I would wish to keep back. The second publication was in consequence of a complaint to the editor of some glaring misprints. I never as creation or the appearance of a new or multiplied fauna was not by law. But by what law Not, I may say, of natural transmutation; not by turning fishes into reptiles, whales into pachyderms, or monkeys into men, in the way of natural generation, but by a higher law, of which we may reach the conception hereafter. as you have reached the conception of an arche typal form. But that conception does not mu tilate, it rather magnifies and consolidates our conceptions of the final causes and of a creator Our conception of law is in most cases only a conception of certain definite cases of phe

na; but, in every case, there lurks

behind the word law a conception of a higher

IV.

Huxley occupies sixty pages in the latter of these volumes. It is pointed out that obvious

as are the merits of Owen's anatomical and

paleontological work to every expert, it is neces-

The supplemental essay contributed by Prof.

terior to the phenomena themselves."

kind; of an ordinary and sustained power, ex-

sary to be an expert to discern them; endles pages of analysis of his memoirs would not make the general reader any wiser than he was at first. On the other hand the nature of the broad problems of the "Archetype" and of "Parthenogenesis" may easily be stated in such way as to be generally intelligible; while from Goethe to Zola poets and novelists have made them interesting. Prof. Huxley, therefore, has permitted himself to dwell on these topics at some length, but the reader is cautioned to bear in mind that, whatever view is taken of Sir Richard Owen's speculations on these subjects, his claim to a high place among those who have made great and permanently valuable contributions to knowledge remains unassailable, It is in terms of lavish praise that Prof. Hux-iey speaks of "Owen's Memoir on the Pearly Sautilus," which was published in 1832, and placed its author at a bound in the front rank of anatomical monographers. "There is nothing better," says Huxley "in the 'Mémoires sur les Mollusques,' I would even venture to say nothing so good, were it not that Owen had Cuvier's great work for a model; certainly in the sixty years that have elapsed since the publication of this remarkable monograph it has not been excelled; and that is a good deal to say with 'Mn ler's Myxinoid Fishes ' for a competitor." During more than half a century Owen's industry mained unabated, and whether the range, the quality, or the quantity of the work done is considered, a doubt is expressed if, in the long annals of anatomy, more is to be placed to the credit of any single student. Furthermore, Prof. Huxley thinks that Owen's monographic work in comparative anatomy occupies a unique position, ot merely on the score of its general high standard of excellence, but by reason of the way in which so many of his memoirs have opened up new regions of investigation. The following are mentioned as among the most im portant from this point of view in addition to the monograph on the Pearly Nautilus already mentioned. To begin, for example, with the higher animals, Owen's early memoirs on the anatomy of the authropoid ages contained by far the most complete account then extant of their structure and of the resemblances and lifferences between them and man; and they form the foundation of all subsequent re-searches in that field. The same thing is said of Owen's investigations on the

mained for many years, indeed, are still, in most espects, the best sources of information about animals. Then the researches minute structure and development of the teeth, summed up in Owen's Odontography and in the article Odontology, contributed by him to the Encyclopedia Britannica—so far as they deal with the outward form, microscopic appearances, and the order of succession of the teeth, and supply a foundation for a useful and consistent nomenclature of dental arrangements have been of very great service both to the ordinary zoologist and to the student of fossil remains. In regard to the class of birds, memoirs on the Apteryx, the Great Auk, and the Dode are particularly noteworthy while among articles dealing with the invertebrates are named the Cephalopoda, the Memoir on Limulus, and the description of the terrible parasite of man, trichina spiralis.

It was in 1837 that Owen, without any pause in the long and important series of anatomica investigations, some of which have just been mentioned, began the contributions to paleon contrib tology which, in after years, perhaps uted most to his fame with the public. not know," says Huxley, "where, unless it be in the 'Ossementa Fossiles,' one is to look for contributions to paleontology more varied, more humerous, and, on the whole, more accurate than those which Owen poured forth in rapid succession between 1837 and 1888." There was no lack of strong contemporaries at work in the same field; De Blainville, Louis Agassiz, and Von Meyer all belonged to Owen's generation. But, to Huxley's mind, the fairest comparison is with Cuvier, and he adds: "I do not think that those who have had to concern themselves with these subjects will rank any of Cuvier's memoirs higher than those of Owen on certain extinct South American animals. In 1849 the first of the long series of memoirs on British fossil reptiles appeared; in 1863 the description of the famous reptilian bird archmopteryx.

This is pronounced a splendid record; enough and more than enough to justify the high place in the scientific world which Owen so long occupied. On this point, the words of no man will carry more weight than Huxley, who, it will be remembered, was more than once engaged in scientific controversy with the subject of this biography. His final judgment may be compressed in two sentences: "If I mistake not, the historian of comparative anatomy and paleontology will always assign to Owen a place next to and hardly lower than that of Cuvier, who was practically the creator of those sciences in their modern shape; and whose works must always remain models of excellence in their kind. It was not uncommon to hear our countryman called the British Cuvier, and so far, in my judgment, the collocation was justified, high as is the praise it implies."

As regards, on the other hand, the wonderful and difficult problem presented in the phenomens of Parthenogenesis, it is submitted that Owen got no further toward a solution than others have done before him. The interesting circumstance, however, is pointed out that the leading idea of his work on Parthenogenesis namely, that sexless proliferation is in some way dependent upon the presence in the prolefying region of relatively unaltered descendants of the primary impregnated embryo cells, is at the botom of the most of the attempts which have been recently made to deal with the question. Welsa nan's theory of the continuity of germ-plasm for example, is practically the same as Owen's if we omit from the latter that the endowmen with spermatic force is the indispensa ble condition of proliferation. progress of knowledge about these matters since 1849 lies in the demonstration o the importance of a certain formed material which is met with in the nuclei of cells; of the fact that this substance, growing and dividing, is distributed from the nucleus of the primary cell to the nuclei of all the cells of the organ ism; that, in sexual proliferation, the nuclear substances of the two parties to the sexual act pass bodily into the nucleus of the resulting embryo cell, without losing their indepe and are similarly transmitted to all the cells of the adult; whence it follows that every histo logical element of the adult living body thus oduced contains associated but yet materially distinct descendants of the nuclear element erived from each parent.

This discovery ranks in the opinion of Prof. Huxley as the greatest achievement of morpho ogical science since the establishment of the cell theory. In a foot note it is explained that the references are to the morphological generalizations known by this name, not to any hypotheses based upon them. The importance of this discovery as a factor in every theory of heredity is byious; and it must have an equally important influence upon all theories of proliferation. For the present, however, the opinion is expresse that it affords very little more help toward a scientific explanation of the phenomena of Parthenogenesis than Owen's theory afforded in the infancy of histological inquiry. Except by the help of assumptions, of which there is no proof, Huxley cannot see that modern speculation at present gives us any better explanation why the leaves of some plants prolefy regularly and readily, why those of others never do so, or why female cockroaches never exhibit sexless proliferation, while queen never exhibit sexiess proliferation, while queen bees always do so. The figenuity which fits hypotheses to facts by the help of other hypotheses is admitted to be "worthy of admiration; but, if it is to be useful, its purely speculative character should never be lost sight of. If science is to retain its strength, it must keep in touch with the solid ground of observation. In reading some of the biological literature of the present day, I sometimes rub my eyes and wonder if I am not dreaming of the good old days of the Naturphilosophic."

NEW YORK'S EXCESS OF WOMEN. They Outnumber the Men in Most of the

Sixty Countles in the State. There are 50,000 more women than men in the State of New York. The universal law governing such matters makes the female popula tion of a long settled country or district higher than that of one newly settled or partly developed, and so in the New England States the number of women is in excess of the number of nen, while in the Western and Pacific States this is reversed.

There are sixty counties in the State of New York and in only twenty-six of these do the male inhabitants outnumber the female. Oddly enough, and for no reason that is known, the excess of men is greatest in those counties which are nearest New York and Brooklyn, though in New York and Brooklyn the women outnumber the men. In this city the excess of female over male inhabitants is 20,000; in Brooklyn it is 17,000. On the other hand there are 1.360 more men than women in Westchester, 700 more in Putnam, 1.700 more in Richmond, 1.400 more in Rockland, and 2.300 more in the county of Rockland which includes the state and in the county of Rockland which includes the laundry town of Troy. By the last Federal census there were 60,000 men and 63,000 women in Rensselaer. In Albany the excess of women is 5,300, in Onondaga 1,100, in Onoida 3,100, in Rockland, and in Oswego 1,200. Eric county, which includes the city of Buffalo, is an exception, the excess of male inhabitants there being 4,000. Why Eric should be an exception to the other big counties containing big cities is not entirely clear, but possibly the shipping interest which centres in and about Buffalo has something to do withit, the transient population of that city being very large.

As might naturally be supposed, a county which has the largest proportion of women is Hamilton which includes the big Adirendack preserve. By the last census the male population of Hamilton was 2,700 while the female population was only 2,000. In the adjoining county of Franklin there are 1,000 more.

The migratory disposition of men is much are 1,360 more men than women in Westchester,

than women and in Clinton there are nearly 1,500 more.

The migratory disposition of men is much more protounced than that of nomen, and to this peculiarity, in part, is to be trained the inequalities which are noticed in many countries. It is a fact not generally known that there is a higher male than female birth rate, and if other causes did not operate to reduce the disparity there would be in every community more mon than women. The reason that this is not the case is that the ratio of doubts due to accidents and violence is much higher among mon than among women. The cashalities of warrare fall almost exclusively on men. The victims of murders, shipwrecks, and accidents are men, in this way the higher birth rate is offset by the higher death rate. It may be said, in a general way, too, that the ordinary laws of health are more generally observed by women than by

these re-

THE AUXUMN ACADEMY. Opening of the Thirteenth Annual Exhibi-It is not an altogether common circumstance that one is called upon to praise unreservedly the work of the venerable and estimable Presi dent of the Academy of Design. His admirable personal and official qualities have made it hand often to tell what appeared to be the truth as te his paintings. His portrait of himself, the central object about which everything clas is grouped, from which all other paintings radiate, in the thirteenth autumn exhibition shows

him at his very best, and in the pose and guise in which he will be handed down to posterity. For here Mr. T. W. Wood, P. N. A., looks down upon the visitor from the centre of the south wall as all know him, the kindly light of welcome in his be-spectacled eyes, and good humor denoted in the mellow curves that roll sway from the wings of his nostrils. There is a black cap upon his white hair, which a deep background sets forth in high relief. it is, in fact, a notable portrait, as it is a living likeness, and it is very beautifully painted.

Its Rembrantesque quality is explained by the fact that Mr. Wood spent the past summer in Europe copying the paintings of the master in whose manner he has painted himself. To his credit be it said, he is not too old to learn, and here is the proof of it. Mr. Wood is of much personal distinction in face and carriage, and he has never had a better sitter than himself. He is pictorial in this canvas, and Rembrands, were he able to see it, could not fall to recognise the compliment that has been paid to him by the President of the Academy. The autumn exhibition of the Academy is not

good usually. Many of the strongest landscape painters are not back in town in time to conribute to it, and others are unwilling to have their pictures hung side by side with the daisies and summer girls and pretty absurdities that often overwhelm the fall show. This year is not strikingly unlike other years in these respects, although it is a month later than usual and there are not many notably strong and effective works shown. There are numerous weaklings of the faddists, and as usual there is complaint of the manner in which the jury has acquitted itself, Carlton Wiggins, Percy Moran, and other such well-known and well-qualified painters are said to have been rejected, while it is plain that there are present on these walls numerous canvases that might have been spared. More than 1,000 pictures were entered for exhibition and barely 407 were accepted. When it came to hanging them it was found that they would not go around the galleries. notwithstanding the space consumed by that pair of colossal Hagenbeck performances, by Mr. Hugo Breul, relating to "Androcles and the Lion," Nos. 13 and 20. Consequently he Committee on Decorations was compelled to cover the deficiency with some draperies.

The novelties in the exhibition are not of the sort to attract much serious attention. They are chiefly among the things-perhaps works would be a more agreeable word to their authors-of the young men who fancy they have discovered what no one ever knew before Manet. Their pieces are novelties in their way; but why dwell on disagreeable matters?

Besides the admirable portrait of Mr. Wood, by himself, there is a head of the late William Hart, N. A., by his fellow academic Magrath, that is thoroughly good in that it is a speaking likeness, speaking even in the well-remembered rich Scotch brogue of the sitter.

There are few landscape pictures of large qualities. Mr. Shurtleff shows "A Woodland Brook," No. 231, one of the Adirondack forest interiors which no one paints so well as he. It is full of the fragrance and the sentiment of the forest, and if t is lacking in distinction it may be because it is over-carefully elaborated. But it is a serious and noble painting. Mr. Miner has two or three of his characteristic paintings, notably the "Moonlight," No. 270, beautiful in tone and sentiment. Mr. W. M. Chase shows Gathering Autumn Flowers," a beautiful landscape of the Shinnecock wilds, disturbed some what in unity by the child with a big parasol in the immediate foreground. His portrait, No. 92, in the south gallery, is a head striking and spirited in pose, and fine in color, but, while conspicuously skilful, still a trifle muddy in the

Miss Mary L. Macomber in her "Care at the Gates of Sleep," No. 296, shows an advancemen in her treatment of decorative subjects of the sort with which her name is associated. Care is epresented by a figure of a kneeling girl in a tattered white gown, with her hair bound by a fillet of serpents, picking at the padiock of the green bronze gates. In its high-keyed green old tone the picture is altogether agreeable, and the figure has a solidity of modelling not always to be found in Miss Macomber's earlier works of

gimilar character. Mr. Walter Palmer has a picture of the "Doge's Palace," Venice, No. 312, that signalizes a departure from his scenes. It is but a corner of the palace, bather in the warmest and most glaring of sunlight Carleton Wiggins, William H. Howe, and Morgan McIlhenny are all excellently represented with strong and beautiful pictures of cattle; Mr. Rehn, Mr. H. R. Butler, Mr. Carleton Chapman and Mr. George H. McCord have marines of various qualities, but all pictorial or beautiful in color; there is a charming little snow scene by Mr. Joseph Lyman; a cold and colorless but wonderfully well-drawn plo ture by Mr. Edgar M. Ward, "Working the Grommet," and pictures of distinct merit and beauty by Mr. Whitmore, Mr. C. A. Platt, Mr. Th. Robinson, Mr. Van Laer, Mr. J. J. Red mond, Mr. Bruce Crane, Mr. J. Francis Murphy, Mr. C. P. Gruppé, Mr. C. F. Naegele, Mr. Herbert Denman, Mr. J. H. Dolph, Mr. Walter Shirlaw, and, in fact, so many others that they must be reserved for a future consideration.

LETTERS FROM ANNEITE.

Blind Sisters Who Unconsciously Help to Produce a Novel, The blind sisterhood of the Convent of St. Paul, in Paris, were engaged recently in writing over and over again, in the raised characters which the blind can read, this letter:

It is enough. Adicul Why continue to suffer to-gether when we may be happy apart? Do not seek to find me, for your search will be in vain. ANNETTE The work went on for days and weeks. All the inmates were employed in repeating Annette's cruel adieu before her flight to a mysteri ous refuge. At last the hands of the Sisters had formed 6,000 of these enigmatic epistles. What was their purpose? Why could not Annette leave her lover without addressing him thousands of circulars? What could be the solution of this mystery? These were the questions they asked one another daily.

The secret at last came out. Annette's oft repeated farewell formed one page of a romance which is a warm plea for those condemned to oternal night, and gives a faithful picture of the asylums and of the hardships which many of the inmates are forced to endure. The eyes of Annette and her lover had been sightless since childhood, and the author had the original idea of introducing in his book her letter, exactly as she would have written it. This work could not be done otherwise than by skilful hands, so the publisher addressed himself to the blind sister-nood of St. Paul, who possessed all the material necessary for writing in relief. The task was a considerable source of revenue to the institution. The letter is written in what is known as the Braille system, which is considered the best you known, Generally speaking, this system comsists of six points arranged in two vertical columns, by which sixty-three combinations are produced which represent the alphabet, and, in reach, the accent marks. Books for the blind as the letters are raised-must be on thick pa per, and a short story would make a volume of

considerable bulk. The success of the book finally obliged the publisher to prepare for a new edition, and, natarally, more letters from Annette were needed: but the sisterhood of St. Paul refused to make them. They had learned, at last, that they had con collaborating a romance a kind of literature altogether profane and proceed by the three three in the publisher neged that the had already written several thousand of these betters, but they met his pleasings with ferr refusals, saying that they were obeying he orders of their superiors. The result is that concern the first edition of the book have doubtled in value, and are being bought up by speculators.